



Complete Summary

TITLE

Children's asthma care: percent of pediatric asthma inpatients who received relievers during hospitalization.

SOURCE(S)

Specifications manual for national hospital inpatient quality measures, version 3.0b. Centers for Medicare & Medicaid Services (CMS), The Joint Commission; 2009 Oct. various p.

Measure Domain

PRIMARY MEASURE DOMAIN

Process

The validity of measures depends on how they are built. By examining the key building blocks of a measure, you can assess its validity for your purpose. For more information, visit the [Measure Validity](#) page.

SECONDARY MEASURE DOMAIN

Does not apply to this measure

Brief Abstract

DESCRIPTION

This measure* is used to assess the percent of pediatric patients admitted for inpatient treatment of asthma who received relievers during hospitalization.

*This is a Joint Commission only measure.

RATIONALE

Asthma is the most common chronic disease in children and a major cause of morbidity and increased health care expenditures nationally (Adams, et al., 2001). For children, asthma is one of the most frequent reasons for admission to hospitals (McCormick, et al., 1999). Silber, et al. (2003) noted that there are approximately 200,000 admissions for childhood asthma in the United States annually, representing more than \$3 billion dollars in healthcare costs. Under-treatment and/or inappropriate treatment of asthma are recognized as major

contributors to asthma morbidity and mortality. Guidelines for the diagnosis and management of asthma in children developed by the National Asthma Education and Prevention Program (NAEPP) of the National Heart, Lung and Blood Institute (NHLBI), as well as by the American Academy of Pediatrics (AAP), recommend the use of relievers to gain control of acute asthma exacerbation and reduce severity as quickly as possible, with step down medication to the least medication necessary to maintain control. However, there is evidence that these guidelines are not followed uniformly. For example, Crain, et al. (1995) found that fewer than half of hospital emergency department survey respondents had heard of the NHLBI guidelines and that there was variation in the use of relievers. Administration of appropriate medication therapy is under the direct control of the care provider.

PRIMARY CLINICAL COMPONENT

Pediatric asthma; use of asthma relievers

DENOMINATOR DESCRIPTION

Pediatric asthma inpatients (age 2 years through 17 years) who were discharged with a principal diagnosis of asthma (see the related "Denominator Inclusions/Exclusions" field in the Complete Summary)

NUMERATOR DESCRIPTION

Pediatric asthma inpatients who received relievers during hospitalization

Evidence Supporting the Measure

EVIDENCE SUPPORTING THE CRITERION OF QUALITY

- A clinical practice guideline or other peer-reviewed synthesis of the clinical evidence
- One or more research studies published in a National Library of Medicine (NLM) indexed, peer-reviewed journal

Evidence Supporting Need for the Measure

NEED FOR THE MEASURE

Use of this measure to improve performance
Variation in quality for the performance measured

EVIDENCE SUPPORTING NEED FOR THE MEASURE

Adams RJ, Fuhlbrigge A, Finkelstein JA, Lozano P, Livingston JM, Weiss KB, Weiss ST. Use of inhaled anti-inflammatory medication in children with asthma in managed care settings. Arch Pediatr Adolesc Med 2001 Apr;155(4):501-7. [PubMed](#)

Clinical practice guidelines of the American Academy of Pediatrics: a compendium of evidence-based research for pediatric practice. American Academy of Pediatrics; 1999.

Crain EF, Weiss KB, Fagan MJ. Pediatric asthma care in US emergency departments. Current practice in the context of the National Institutes of Health guidelines. Arch Pediatr Adolesc Med 1995 Aug;149(8):893-901. [PubMed](#)

Gross KM, Ponte CD. New strategies in the medical management of asthma. Am Fam Physician 1998 Jul;58(1):89-100, 109-12. [26 references] [PubMed](#)

Guidelines for the diagnosis and management of asthma. [internet]. Bethesda (MD: National Heart, Lung, and Blood Institute (NHLBI); 2002

McCormick MC, Kass B, Elixhauser A, Thompson J, Simpson L. Annual report on access to and utilization of health care for children and youth in the United States-1999. Pediatrics 2000 Jan;105(1 Pt 3):219-30. [PubMed](#)

National Asthma Education and Prevention Program. [internet]. Bethesda (MD): National Heart, Lung, and Blood Institute; [accessed 2008 Nov 20].

Silber JH, Rosenbaum PR, Even-Shoshan O, Shabbout M, Zhang X, Bradlow ET, Marsh RR. Length of stay, conditional length of stay, and prolonged stay in pediatric asthma. Health Serv Res 2003 Jun;38(3):867-86. [PubMed](#)

State of Use of the Measure

STATE OF USE

Current routine use

CURRENT USE

Accreditation
Collaborative inter-organizational quality improvement
Internal quality improvement
National reporting

Application of Measure in its Current Use

CARE SETTING

Hospitals

PROFESSIONALS RESPONSIBLE FOR HEALTH CARE

Measure is not provider specific

LOWEST LEVEL OF HEALTH CARE DELIVERY ADDRESSED

Single Health Care Delivery Organizations

TARGET POPULATION AGE

Age 2 through 17 years

TARGET POPULATION GENDER

Either male or female

STRATIFICATION BY VULNERABLE POPULATIONS

Results from this Children's Asthma Care (CAC-1) measure are stratified by age range:

- Age 2 years through 4 years
- Age 5 years through 12 years
- Age 13 years through 17 years

Characteristics of the Primary Clinical Component

INCIDENCE/PREVALENCE

Unspecified

ASSOCIATION WITH VULNERABLE POPULATIONS

Unspecified

BURDEN OF ILLNESS

See the "Rationale" field.

UTILIZATION

See the "Rationale" field.

COSTS

See the "Rationale" field.

Institute of Medicine National Healthcare Quality Report Categories

IOM CARE NEED

Getting Better

IOM DOMAIN

Data Collection for the Measure

CASE FINDING

Users of care only

DESCRIPTION OF CASE FINDING

Pediatric asthma inpatients (age 2 years through 17 years) who were discharged with a principal diagnosis of asthma

DENOMINATOR SAMPLING FRAME

Patients associated with provider

DENOMINATOR INCLUSIONS/EXCLUSIONS

Inclusions

Pediatric inpatient discharges, age 2 years through 17 years, with an International Classification of Diseases, Ninth Revision, Clinical Modification (ICD-9-CM) Principal Diagnosis Code of asthma as defined in the appendices of the original measure documentation

Exclusions

- Patients with age less than 2 years or 18 years or greater
- Patients who have a Length of Stay greater than 120 days
- Patients enrolled in clinical trials
- Patients with a documented *Reason for Not Administering Relievers*

RELATIONSHIP OF DENOMINATOR TO NUMERATOR

All cases in the denominator are equally eligible to appear in the numerator

DENOMINATOR (INDEX) EVENT

Clinical Condition
Institutionalization

DENOMINATOR TIME WINDOW

Time window brackets index event

NUMERATOR INCLUSIONS/EXCLUSIONS

Inclusions

Pediatric asthma inpatients who received relievers during hospitalization

Exclusions

None

MEASURE RESULTS UNDER CONTROL OF HEALTH CARE PROFESSIONALS, ORGANIZATIONS AND/OR POLICYMAKERS

The measure results are somewhat or substantially under the control of the health care professionals, organizations and/or policymakers to whom the measure applies.

NUMERATOR TIME WINDOW

Institutionalization

DATA SOURCE

Administrative data
Medical record

LEVEL OF DETERMINATION OF QUALITY

Individual Case

PRE-EXISTING INSTRUMENT USED

Unspecified

Computation of the Measure**SCORING**

Rate

INTERPRETATION OF SCORE

Better quality is associated with a higher score

ALLOWANCE FOR PATIENT FACTORS

Analysis by subgroup (stratification on patient factors, geographic factors, etc.)

DESCRIPTION OF ALLOWANCE FOR PATIENT FACTORS

There are three distinct strata or sub-populations within the Children's Asthma Care (CAC-1) Topic Population, each identified by a specific age range. The patients in each stratum are counted in the International Classification of Diseases (ICD) Population of multiple measures.

- Age 2 years through 4 years

- Age 5 years through 12 years
- Age 13 years through 17 years

Refer to the CAC ICD Population in the original measure documentation for further details.

STANDARD OF COMPARISON

External comparison at a point in time
 External comparison of time trends
 Internal time comparison

Evaluation of Measure Properties

EXTENT OF MEASURE TESTING

Unspecified

Identifying Information

ORIGINAL TITLE

CAC-1: relievers for inpatient asthma (age 2 years through 17 years).

MEASURE COLLECTION

[National Hospital Inpatient Quality Measures](#)

MEASURE SET NAME

[Children's Asthma Care](#)

SUBMITTER

Centers for Medicare & Medicaid Services
 Joint Commission, The

DEVELOPER

Centers for Medicare & Medicaid Services/The Joint Commission

FUNDING SOURCE(S)

All external funding for measure development has been received and used in full compliance with The Joint Commission's Corporate Sponsorship policies, which are available upon written request to The Joint Commission.

COMPOSITION OF THE GROUP THAT DEVELOPED THE MEASURE

The composition of the group that developed the measure is available at:
<http://www.jointcommission.org/NR/rdonlyres/92E387C9-563B-40C7-BAAC-24FBE5CB192F/0/CACAdvisoryPanel.pdf>.

FINANCIAL DISCLOSURES/OTHER POTENTIAL CONFLICTS OF INTEREST

Expert panel members have made full disclosure of relevant financial and conflict of interest information in accordance with the Joint Commission's Conflict of Interest policies, copies of which are available upon written request to The Joint Commission.

ENDORSER

National Quality Forum

INCLUDED IN

Hospital Compare
Hospital Quality Alliance

ADAPTATION

Measure was adapted from another source.

PARENT MEASURE

Use of Relievers for Inpatient Asthma (Pediatric Data Quality Systems [Pedi-QS], National Association of Children's Hospitals and Related Institutions [NACHRI], Child Health Corporation of America (CHCA), Medical Management Planning, Inc. [MMP], and The Joint Commission)

RELEASE DATE

2007 Apr

REVISION DATE

2009 Oct

MEASURE STATUS

This is the current release of the measure.

This measure updates a previous version: Specifications manual for national hospital quality measures, version 2.5b. Centers for Medicare & Medicaid Services (CMS), The Joint Commission; 2008 Oct. various p.

SOURCE(S)

Specifications manual for national hospital inpatient quality measures, version 3.0b. Centers for Medicare & Medicaid Services (CMS), The Joint Commission; 2009 Oct. various p.

MEASURE AVAILABILITY

The individual measure, "CAC-1: Relievers for Inpatient Asthma (Age 2 Years through 17 Years)," is published in the "Specifications Manual for National Hospital Inpatient Quality Measures." This document is available in Portable Document Format (PDF) from [The Joint Commission Web site](#). Information is also available from the [Centers for Medicare & Medicaid Services \(CMS\) Web site](#). Check The Joint Commission Web site and CMS Web site regularly for the most recent version of the specifications manual and for the applicable dates of discharge.

COMPANION DOCUMENTS

The following are available:

- The Joint Commission. A comprehensive review of development and testing for national implementation of hospital core measures. Oakbrook Terrace (IL): The Joint Commission; 40 p. This document is available from [The Joint Commission Web site](#).
- The Joint Commission. Attributes of core performance measures and associated evaluation criteria. Oakbrook Terrace (IL): The Joint Commission; 5 p. This document is available from [The Joint Commission Web site](#).
- Hospital compare: a quality tool provided by Medicare. [internet]. Washington (DC): U.S. Department of Health and Human Services; 2009 Oct 5; [accessed 2009 Oct 12]. This is available from the [Medicare Web site](#). See the related [QualityTools](#) summary.

NQMC STATUS

This NQMC summary was completed by ECRI Institute on January 9, 2008. The information was verified by the measure developer on February 4, 2008. The measure developer informed NQMC that this measure was updated on June 30, 2008 and provided an updated version of the NQMC summary. This NQMC summary was updated accordingly by ECRI Institute on November 11, 2008. The measure developer informed NQMC that this measure was updated again on July 6, 2009 and provided an updated version of the NQMC summary. This NQMC summary was updated accordingly by ECRI Institute on October 9, 2009.

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